

## Introduction & business problem

An international supermarket, 2 Market, like many retail businesses in 2022 collects a wealth of data about their customers, the transactions they make and how they are being reached via advertising channels. This is the first time they have employed a Data Analyst to help them untangle the meaning behind numbers and devise strategies to understand their customer base better, optimise advertising costs and grow sales.

After familiarising myself with data at hand and a series of talks with stakeholders involved in the project, I have devised three very straightforward initial questions:

1. Who are 2Market clients?
2. What are they buying?
3. Which marketing channels reach them best?

## Analysis

Let's dive into the initial insights of the analysis. The size of a sample is 2.216 customers with a unique client ID number who made any purchase at 2Market in the last 3 months.

Average age of 2Market client is 52 years, the majority of the group comes from continental Spain. They are well-educated — most graduated from college, hold a PHD or a Master's Degree. They are mostly married or in a relationship and have a child or a teenager at home. Their average yearly income is \$52,247.

In terms of buying habits, let's start with buying power. The country that has the biggest average income is Montenegro with \$57,680, followed by South Africa with \$54,831, United States with \$53,218 and Canada with \$53,051. In-store purchases are leading in terms of the average amount of products bought this way with 5,8 items versus online purchases with 4,09 items. In each age group the most favored products are by far alcoholic beverages followed by meat items. That trend doesn't change much month on month.

In terms of advertising — globally, social media are the most effective advertising channel with Twitter taking the lead with 164 successful conversions, Email marketing is delivering great results with 163 conversions globally and finally brochure ads don't deliver promising results, with 30 conversions only. When we look at a country level, we can see a diversification of social media advertising

channels' effectiveness. Spain, a market with most customers, sees great returns from Instagram advertising for example.

I also had a look at website conversions so the amount of times a website visit resulted in a purchase and that is hovering around 30% in most of the markets.

## **Recommendations**

This analysis brings us actionable next steps for optimisation of 2Market's marketing efforts. There are two ways to approach further growth. Depending on a current marketing strategy for a Spanish market, 2Market can aim to grow their most popular market further by investing in a more customised approach to attract and retain customers there. 2Market can also look into less popular markets with big potential — for example South Africa, the United States and Canada. There is of course also a lot of potential to optimise currently running campaigns and user experience on the website. Actionable next steps could be:

1. Consider localising all advertising materials into Spanish (if not done yet) to better address customers who live there.
2. Consider average age and other demographic characteristics to further hone social media marketing targeting to make sure the right audiences are reached.
3. Look which social media channels are performing best in each country to better understand how advertising budgets should be allocated.
4. Consider a stronger advertising push in South Africa, the United States and Canada — the countries with high average incomes to see if there are any additional selling opportunities. Additionally, there are all English speaking countries so there is no need for additional localisations of assets.
5. Consider removing brochure advertising from the advertising roster. It is not as successful as other channels and usually tends to be time, budget and resource heavy. That budget can be shifted into Twitter and Instagram advertising that sees many more conversions.
6. One of potential ways to see more conversions from both social and email ads would be to offer exclusive discounts on most popular 2Market products (alcoholic beverages and meat).
7. And finally 2Market's digital department could look into improving user experience on the website and work out ways to reach more conversions, seeing as there is a bigger margin of profit on online purchases.

## **Data**

In terms of data analysis, I have first worked extensively with the Excel file. I had a close look into the data dictionary to better understand what information is available and I have cleaned the data. I have removed outliers in terms of date of birth (people above 120 years) and calculated customers' age in a separate field. Next, I cleaned the marital status of values that weren't relevant (YOLO, absurd) and have replaced them with N/A. I have reformatted the income field from text to a numeric field. I needed to reformat the date of customer's registration with the company. I have divided the data in half, for the first batch I have used "text to columns" functionality and changed the date format from American to European (UK). For the second batch I have assumed that they are in a UK format already so I just made sure the type of a field is date. I have also mapped a country name, as a short SA, here meant for South Africa, is not internationally recognized (it should be ZA for tools like Tableau to read it properly), Last but not least — I have decided to not remove any duplicates as each client had a unique client ID. When all that was done I had a very first look at the analysis in Excel using pivot tables for percentages of marital status, average age or bins of income.

As a next step I have imported both Marketing and Advertising csv files into pgAdmin and queried the data join. Even though I found SQL really logical at the end I have decided to do that part of analysis in Tableau, which I find more intuitive and visual. In Tableau I have joined both data sources with an inner join using the unique customer ID as my primary key. I then made singular calculations for all 3 parts of my report - demographics, purchasing habits and advertising. I have built dashboards for all three and finally decided to present it in the form of a Story.